

VIII.3.3-RES-SNGL-S-USMN26 SUBROUTINE USMN26

Description

Subroutine USMN26 minimizes the crest stage during flood conditions at an upstream control point in the reservoir.

Calling Sequence

SUBROUTINE USMN26 (USQO, USTAGE, POOLEL, USQ, PEAK, DRAWDN, RATE, STGOPT, STOPEV, ELEVQ, DAMQ, STOR, ELEV)

Argument List

<u>Argument</u>	<u>Input/ Output</u>	<u>Type</u>	<u>Dimension</u>	<u>Description</u>
USQO	Input	R*4	NUM	Discharge array for upstream gage with beginning position at end of first time interval
USTAGE	Input	R*4	NUSTAG	Array of upstream stages for three-way relation of upstream stage, pool elevation at dam and upstream discharge; the same stages are used for all pool elevation curves
POOLEL	Input	R*4	NPOOLU	Array of pool elevations at dam as parameter in upstream stage versus discharge relation; discharges for each of the upstream stage values define a pool elevation curve
USQ	Input	R*4	(NPOOLU,NUSTAG)	Array of discharge values for the upstream stage, pool elevation and upstream discharge relation
PEAK	Input	R*4	NUMM	Array of highest discharge values at upstream gage in decision table containing PEAK, DRAWDN, RATE, STGOPT and STOPEV arrays; PEAK values must be in ascending order
DRAWDN	Input	R*4	NUMM	Array of required drawdown pool elevations corresponding to PEAK values in decision table; DRAWDN values will be in descending order

<u>Argument</u>	<u>Input/ Output</u>	<u>Type</u>	<u>Dimension</u>	<u>Description</u>
RATE	Input	R*4	NUMM	Values in the decision table of evacuation rates per time step effective between the corresponding DRAWDN value and the next higher value (next lower position in DRAWDN array)
STGOPT	Input	R*4	NUMM	Array of upstream limiting stage values corresponding to RATE values; when STGOPT is zero the evacuation rate is the RATE value; when STGOPT is greater than zero STGOPT is a limiting stage at the upstream gage; below this limiting stage the evacuation rate is the lesser of RATE or a factor times the rate of rise at the upstream gage for the previous time step
STOPEV	Input	R*4	NUMM	Array of upstream or zero stages in the decision table; if STOPEV is greater than zero then it is the upstream stage below which evacuation can stop when the upstream stage stops rising; when STOPEV is zero the evacuation is continued until the DRAWDN pool elevation is reached; values of STOPEV are effective between the corresponding DRAWDN value and the next higher value (next lower position in DRAWDN array) zero
ELEVQ	Input	R*4	NDAMQ	Total dam discharges for elevation versus maximum dam discharge relation
DAMQ	Input	R*4	NDAMQ	Total dam discharges for elevation versus maximum dam discharge relation
STOR	Input	R*4	NSE	Storages for pool elevation versus storage relation
ELEV	Input	R*4	NSE	Elevations for elevation versus storage relation

Dimension variables are in common blocks RESV26 and USMI26.